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English Royal Society: Physicists Newton, Eddington, Einstein, Investigation trial and conviction

Hooke's Accusations of Newton of theft incompetence and fraud in physics
The Mathematical proof
By Professor Joe Nahhas 1976

Abstract: Historically Robert Hooke a member of England's Royal society 1635 - 1703 accused Sir Isaac Newton 1642 - 1727 the head master of England's royal society of theft of the Universal Gravitation law $F = - G\ m\ M/r^2$. Hooke's law is a well-known physics law $\mathbf{F} = - k\ \mathbf{r}$. After Newton claimed $F = - G\ m\ M/r^2$ Hooke accused Newton of stealing his deduction claiming that his law $\mathbf{F} = - k\ \mathbf{r}$ and Kepler's third law a^3/T^2 = constant when put together produced the universal gravitation law $F = [- G\ m\ M/r^2]\ \mathbf{r}$ (1) that Newton stole from him. This article is a proof that the Gravitational law Newton the head of England Royal society not only possibly stole but also changed a^3/T^2 to a variable without precautions or experimental proof weaving a trap for Einstein to use and named relativity theory. Furthermore, Hooke accused Newton of:

1- Newton stole Hook'es law $\mathbf{F} = - k\ \mathbf{r}$ and Hooke's deduction $\mathbf{F} = - k\ \mathbf{r} \sim [- G\ m\ M/r^3]\ \mathbf{r}$
2- Newton changed Kepler's third law a^3/T^2 = constant to a variable erroneously.
3- Newton's acts of academic theft and incompetence would lead to bad physics.

Hooke's never published anything to back his allegations against Newton of theft incompetence and fraud physics accusing Newton of using his Post as Head Master of Royal England Natural Philosophy to manage stealing his physics and change Kepler's physics and eventually producing bad physics. Nevertheless, investigating Hooke's allegations against Newton a conclusion can be made in favor of Hooke.

Proof:
All there is in the Universe is objects of mass m moving in space (x, y, z) at a location

$\mathbf{r} = \mathbf{r}$ (x, y, z). The state of any object in the Universe can be expressed as the product

$\mathbf{S} = m\,\mathbf{r}$; State = mass x location:

$\mathbf{P} = d\,\mathbf{S}/d\,t = m\,(d\,\mathbf{r}/d\,t) + (dm/d\,t)\,\mathbf{r}$ = Total moment
= change of location + change of mass
$= m\,v + m'\,r$; v = velocity = $d\,r/d\,t$; m' = mass change rate

$\mathbf{F} = d\,\mathbf{P}/d\,t = d^2\mathbf{S}/dt^2$ = Total force
$= m\,(d^2\mathbf{r}/dt^2) + 2(dm/d\,t)\,(d\,\mathbf{r}/d\,t) + (d^2m/dt^2)\,\mathbf{r}$
$= m\,\boldsymbol{\gamma} + 2m'\mathbf{v} + m''\,\mathbf{r}$; γ = acceleration; m'' = mass acceleration rate

<u>In polar coordinates system</u>

$\mathbf{r} = r\,\mathbf{r}_{(1)}$; $\mathbf{v} = r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}$; $\boldsymbol{\gamma} = (r'' - r\theta'^2)\mathbf{r}_{(1)} + (2r'\theta' + r\,\theta'')\boldsymbol{\theta}_{(1)}$
$\mathbf{r}$ = location; $\mathbf{v}$ = velocity; $\boldsymbol{\gamma}$ = acceleration
$\mathbf{F} = m\,\boldsymbol{\gamma} + 2m'\mathbf{v} + m''\,\mathbf{r}$
$\mathbf{F} = m\,[(r''-r\theta'^2)\,\mathbf{r}_{(1)} + (2r'\theta' + r\,\theta'')\,\boldsymbol{\theta}_{(1)}] + 2m'[r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}] + (m''\,r)\,\mathbf{r}_{(1)}$
$= [d^2\,(m\,r)/dt^2 - (m\,r)\,\theta'^2]\,\mathbf{r}_{(1)} + (1/mr)\,[d\,(m^2r^2\theta')/d\,t]\,\boldsymbol{\theta}_{(1)}$
$= [-GmM/r^2]\,\mathbf{r}_{(1)}$ **-------------------------------** Newton's Gravitational Law
Proof**:**
First $\mathbf{r} = r\,[\cos\theta\,\hat{\mathbf{i}} + \sin\theta\,\hat{\mathbf{J}}] = r\,\mathbf{r}_{(1)}$
Define $\mathbf{r}_{(1)} = \cos\theta\,\hat{\mathbf{i}} + \sin\theta\,\hat{\mathbf{J}}$
Define $\mathbf{v} = d\,\mathbf{r}/d\,t = r'\,\mathbf{r}_{(1)} + r\,d[\mathbf{r}_{(1)}]/d\,t$
$= r'\,\mathbf{r}_{(1)} + r\,\theta'[-\sin\theta\,\hat{\mathbf{i}} + \cos\theta\,\hat{J}]$
$= r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}$

Define $\boldsymbol{\theta}_{(1)} = -\sin\theta\,\hat{i} + \cos\theta\,\hat{J}$;
And with $\mathbf{r}_{(1)} = \cos\theta\,\hat{i} + \sin\theta\,\hat{J}$
Then $d\,[\boldsymbol{\theta}_{(1)}]/d\,t = \theta'\,[-\cos\theta\,\hat{i} - \sin\theta\,\hat{J} = -\theta'\,\mathbf{r}_{(1)}$
And $d\,[\mathbf{r}_{(1)}]/d\,t = \theta'\,[-\sin\theta\,\hat{i} + \cos\theta\,\hat{J}] = \theta'\,\boldsymbol{\theta}_{(1)}$

Define $\boldsymbol{\gamma} = d\,[r'\,\mathbf{r}_{(1)} + r\,\theta'\,\boldsymbol{\theta}_{(1)}]\,/d\,t$
$= r''\,r_{(1)} + r'd\,[\mathbf{r}_{(1)}]/d\,t + r'\,\theta'\,\mathbf{r}_{(1)} + r\,\theta''\,\mathbf{r}_{(1)} + r\,\theta'd\,[\theta_{(1)}]/d\,t$
$\boldsymbol{\gamma} = (r'' - r\theta'^2)\,\mathbf{r}_{(1)} + (2r'\theta' + r\,\theta'')\,\boldsymbol{\theta}_{(1)}$

With $d^2\,(m\,r)/dt^2 - (m\,r)\,\theta'^2 = F\,(r)$
And $d\,(m^2r^2\theta')/d\,t = 0$
With m = constant, then
With $d^2\,r/dt^2 - r\,\theta'^2 = F\,(r)$ Eq-1
And $d\,(r^2\theta')/d\,t = 0$ Eq-2

From Eq-2: $d\,(r^2\theta')/d\,t = 0$
Then $r^2\theta' = h$ = constant
Differentiate with respect to time
Then $2rr'\theta' + r^2\theta'' = 0$

Divide by $r^2\theta'$
Then $2(r'/r) + \theta''/\theta' = 0$
And $2(r'/r) = -\theta''/\theta' = 2[\lambda(r) + i\,\omega(r)]$

Also, $r = r(0)\,\text{Exp}\,[\lambda(r) + i\,\omega(r)]\,t$
And $\theta' = \theta'(0)\,\text{Exp}\,-2\,[\lambda(r) + i\,\omega(r)]\,t$

For a fixed orbit: $\lambda(r) = 0$
Also, $r = r(0)\,\text{Exp}\,i\,\omega(r)\,t$
And $\theta' = \theta'(0)\,\text{Exp}\,-2\,i\,\omega(r)\,t$
And $d^2 r/dt^2 = -\omega^2(r)\,r$ Hooke's law

With $d^2 r/dt^2 - r\,\theta'^2 = F(r) = -m\,f(r)$
Then $F = -m\,[\omega^2(r) + \theta'^2]\,r$ Hooke's Modified law
$= -m\,f(r)$
And $[\omega^2(r) + \theta'^2]\,r = f(r)$

At $r = a$ and $t = 0$; $[\omega^2(a) + \theta'(0)^2]\,a = f(a)$
Then $[\omega^2(a) + \theta'(0)^2]\,a^3 = a^2 f(a) = \text{constant}$
With $a^3/T^2 = \text{constant}$ Kepler's third law
And $[\omega^2(a) + \theta'(0)^2] \sim [2\pi/T]^2 = 4\pi^2/T^2$
Then $f(a) = \text{constant}/a^2$
And $f(r) = \text{constant}/r^2$ Hooke's deduction

This would yield $a^3/T^2 = GM/4\pi^2$
Or $T^2/a^3 = 4\pi^2/GM$; G = Gravitational constant and M = Sun mass
Hooke's claim that Newton stole his work and used his association with Royal England to get by him like this
1- That Newton stole $\mathbf{F} = [-G\,m\,M/r^2]\,\mathbf{r}$ **(1)** from him
2- That Newton made $T^2/a^3 = 4\pi^2/G(M + m)$ a variable with m being the mass of a planet and changes value with every planet contrary to Kepler's experimental findings that the quantity T^2/a^3 does not change value. Hooke claimed that that Newton's status with the Royals made him immune to investigations and Hooke did not back up his claims with a publication that says changing $T^2/a^3 = 4\pi^2/G\,M$ to $T^2/a^3 = 4\pi^2/G(M + m)$ would result in bad physics and why $T^2/a^3 = 4\pi^2/G(M + m)$ is wrong when all scientists say it is correct?

In physics literature there is not one single mathematician physicist or engineer who derived or showed how did Newton arrive at $T^2/a^3 = 4\pi^2/G(M + m)$ clearly. Most physics literature copies each other and none gives a clear derivation. Since I am good I am going to investigate this assumption or check $T^2/a^3 = 4\pi^2/G(M + m)$ validity.

If we accept Hooke's deduction that was historically claimed by Newton
$\mathbf{F} = [-G\,m\,M/r^2]\,\mathbf{r}$ **(1)**
And solve this equation as follows

With $d^2(m\,r)/dt^2 - (m\,r)\,\theta'^2 = -GmM/r^2$ Newton's Gravitational Equation (1)

And $d(m^2 r^2 \theta')/dt = 0$ Central force law (2)

If m = constant

Then $d^2 r/dt^2 - r\theta'^2 = -GM/r^2$ Newton's Gravitational Equation (1)

And $d(r^2\theta')/dt = 0$ Central force law (2)

<u>From (2)</u>: $d(r^2\theta')/dt = 0$

Then $r^2\theta' = h$

Let $m\, r = 1/u$

Then $dr/dt = -u'/u^2 = -(1/u^2)(\theta')\, du/d\theta = (-\theta'/u^2)\, du/d\theta = -h\, du/d\theta$

And $d^2 r/dt^2 = -h\theta' d^2u/d\theta^2 = -hu^2\, [d^2u/d\theta^2]$

And $-u^2\, [d^2u/d\theta^2] - (1/u)(hu^2)^2 = -G\, Mu^2$

$[d^2u/d\theta^2] + u = G\, M/h^2$

And $u = G\, M/h^2 + A \text{ cosine } \theta$

And $r = 1/u = 1/[G\, M/h^2 + A \text{ cosine } \theta]$

$= [h^2/G\, M]/\{1 + [Ah^2/G\, M][\text{cosine } \theta]\}$

$= [h^2/GM]/(1 + \varepsilon \text{ cosine } \theta)$

With $r = a(1 - \varepsilon^2)/(1 + \varepsilon \text{ cosine } \theta)$

We have $h^2/G\, M = a(1 - \varepsilon^2)$

And taking $h = 2\pi\, a\, b/T = [2\pi\, a^2/T]\sqrt{(1 - \varepsilon^2)}$

Then $h^2 = 4\pi^2 a^3 [a(1 - \varepsilon^2)]/T^2$

And $h^2/GM = 4\pi^2 a^3 [a(1 - \varepsilon^2)]/T^2\, GM$

Then $1 = 4\pi^2 a^3/T^2\, GM$

And $T^2/a^3 = 4\pi^2/GM$

And $T^2/a^3 = 4\pi^2/G[M + m]$ is Newton's bad physics.

This one mistake will lead to:

$T^2(1)/a^3 = 4\pi^2/G\, M$

$T^2(2)/a^3 = 4\pi^2/G\, [M + m]$

$T^2(1) = [(M + m)/M]\, T^2(2)$

$T(1) = \{\sqrt{[(M + m)/M]}\}\, T(2)$

$2\pi/\theta'(1) = \{\sqrt{[1 + (m/M)]}\}\, 2\pi/\theta'(2)$

And $\theta'(1) = \{1/\sqrt{[1 + (m/M)]}\}\, \theta'(2)$

And $\theta'(2) = \{\sqrt{[1 + (m/M)]}\}\, \theta'(1)$

And $\theta'(2) = [1 + m/2M]\, \theta'(1)$

And $\theta'(2) - \theta'(1) = 2\pi m/2T\, M = m\, \pi/T\, M$

And $T[\theta'(2) - \theta'(1)] = \Delta\theta = m\, \pi/T\, M$

And $\Delta\theta = m\, \pi/M$ radians per cycle

In degrees $\Delta\theta = [180/\pi]\, m\, \pi/M = 180\, (m/M)$

In degrees per century $\Delta \theta = [180 \times 36526/T] (m / M)$

In seconds of an arc per century: $\Delta \theta = [180 \times 36526 \times 3600/T] (m / M)$

With mass of mercury: $m = 0.32 \times 10^{24}$ kg
And mass of sun $M = 2 \times 10^{30}$ kg
And T = 88 days

$\Delta \theta = [180 \times 36526 \times 3600/T] (m / M)$
$= [180 \times 36526 \times 3600/88] (0.32 \times 10^{24} / 2 \times 10^{30})$
$= 43.03426909$ seconds of an arc per century for planet mercury.

This bad physics is the first experimental proof of general theory of relativity

Newton's mistake led to bad physics called relativity. The fact that Newton's claim that $T^2/a^3 = 4\pi^2/G (M + m)$ is not proven mathematically but were wrongly deduced from the conservation of energy law has some serious implications on all of astronomy because this formula $T^2/a^3 = 4\pi^2/G (M + m)$ is used to find the masses of stars. Astronomers measure a = semi major axis and T = orbital period and use G = gravitational acceleration to deduce the combined mass of the primary star m plus the secondary star M which is the sum (M + m) when in fact it is the mass of the secondary M alone. This mistake is not to be taken lightly. How did that happen?
With respect to the center of mass: $r (m) = [M/ (M + m)] r$
And $r (M) = [m/ (M + m)] r$
And $v (m) = [M/ (M + m)] v$
And $v (M) = [m/ (M + m)] v$
And $v^2 (m) = [M/ (M +m)]^2 v^2$
And $v^2 (M) = [m/ (M + m)]^2 v^2$

And $v^2 (m)/ r (m) = \{[M/ (M +m)]^2 v^2\}/ \{[M/ (M + m)] r\} = [M/ (M +m)] (v^2/ r)$
And $v^2 (M)/ r (M) = \{[m/ (M +m)]^2 v^2\}/ \{m/ (M + m)] r\} = [m/ (M +m)] (v^2/ r)$

With $m v^2 (m)/ r (m) = m [M/ (M + m)] (v^2/ r)$
$= \mu (v^2/ r)$ = force with respect to center of mass
With $M v^2 (M)/ r (M) = M [m/ (M + m)] (v^2/ r)$
$= \mu (v^2/ r)$ = force with respect to center of mass

The force $F = -G m M/r^2$ = force between m and M
$\neq - \mu (v^2/ r)$ force of either of m or M with respect to the center of mass

This **$F = -G m M/r^2 = - \mu (v^2/ r)$** is Newton's 350 years old mistake

The force $F = - G m M/r^2 = - m (v^2/ r)$ is the correct formula

With $v^2 = G M/ r$
Taking $v = 2 \pi r / T$; $v^2 = 4 \pi^2 r^2/ T^2$

Then $a^3/T^2 = GM/4\pi^2$; $r = a$

With $v^2 = G(M + m)/r$
Taking $v = 2\pi r/T$; $v^2 = 4\pi^2 r^2/T^2$
Then $a^3/T^2 = G(M + m)/4\pi^2$; $r = a$

This 350 years old mistake by Newton accepted by the 100, 000 living physicists and missed by the 100, 000 deceased physicists is an example how physics is imposed by the few in power places who would say anything publish anything based on nothing and Nobel prizes attached and no physics.
Newton Changed Kepler's law from $T^2/a^3 = 4\pi^2/GM$ to $T^2/a^3 = 4\pi^2/G(M + m)$ and introducing an error like this $T^2(1)/a^3 = 4\pi^2/GM$ and $T^2(2)/a^3 = 4\pi^2/G(M + m)$
$T(1) = T(2)\sqrt{[M/(M + m)]}$
And $2\pi/T(1) = [2\pi/T(2)]\sqrt{(1 + m/M)}$
And $\theta'(1) = \theta'(2)\sqrt{(1 + m/M)}$
And $\theta'(2) = \theta'(1)/\sqrt{[1 + (m/M)]} \approx [1 - m/(2M)]$
And $\theta'(2) - \theta'(1) \approx -\theta'(1)(m/2M) = -[2\pi/T][m/2M] = -\pi m/MT$ radians/T
W '' (observed) = $[-\pi m/MT]$ ($180/\pi$ degrees) (3600 seconds) (36526 century); T = days

W' (observed) = (-180 x 36526 x 3600/T) (m/M) seconds of arc /100 years; **Newton**

This formula of Newton is only published by me Joe Alexander Nahhas in 1976 as part of an investigation of royal society member Robert Hooke's [Hooke's law $F = -kr$] claim that his master Newton stole his gravitational law $F = -GmM/r^2$ and this gravitational law is deducted from $F = -kx$ which turned out to be true. Then Einstein came
W'' (observed) = $6\pi GM/Tac^2(1 - \varepsilon^2) = [6\pi/T(1 - \varepsilon^2)](v/c)^2$; v =orbital velocity
W '' (observed) = $[6\pi/T(1 - \varepsilon^2)](v/c)^2$ ($180/\pi$ degrees) (3600 seconds) (36526 (century)
W '' (observed) = [1080x 36526x 3600/ T (1 - ε^2)] (v/c) ^{2} arc sec/ 100 years **Einstein**
This is Lord Eddington derivation trying to solve the mystery of light bending with Einstein's using Lorentz contraction formula that has $(v/c)^2$. Einstein formula for light bending was wrong but Eddington needed Einstein to explain his Royal expedition failures watching the sky and not knowing where the error came from and Lord Eddington created Einstein's fame to promote himself.

Newton and Einstein made the same mistake because their formula was rigged to cater for planet Mercury using different reference frames and introducing mistakes. First mistake was Newton's mistake because using different frames of reference introduces time delay errors. When Newton changed frames of reference he took mass m and implemented $\mu = m[M/(M + m)]$ and we stuck with an error or shortage factor in mathematical form amount to $M/(M + m)$. After Newton astronomers were puzzled by the perihelion advance of planet Mercury not investigating its origin. The time delay error to changing frames of reference is this formula for the angle at closet approach is:

W'' = (-720x36526x3600/T) $\{[\sqrt{(1-\varepsilon^2)}]/(1-\varepsilon)^2\}[(v^\circ + v^*)/c]^2$ arc seconds /100 years
This is my 1977 equation for advance of perihelion/apsidal motion for any two body system and it works on binary stars while Newton's and Einstein's does not.

With v* = orbital speed and v° = spin speed of planet and observer depending on spin orientation. For planet mercury spin is 3 meters per second and can be ignored.
What remains is: **W'' = (-720x36526x3600/T) {[√ (1-ε²)]/ (1-ε) ²} (v* + v°/c) ² arc seconds /100 years where v° become is the orbital velocity of the telescope location.**
For planet Mercury **{[√ (1-ε²)]/ (1-ε) ²} = 1.522 and** (1 - ε²) = 0.957564; ε = 0.2056 and ε was approximated to ≈ 2.06 and 1.522 x 0.957564 =1.486139328 ≈ 3/2
And **{[√ (1-ε²)]/ (1-ε) ²}** was found to be equal (3/2)/ (1 - ε²) and we get
W'' = (-720x36526x3600/T) (3/2)/ (1-ε²) [(v°+ v*)/c] ² arc seconds /100 years
W'' = **[1080x 36526x 3600/ T (1 - ε²)] [(v°+ v*)/c] ² arc seconds /100 years**
Einstein never accounted for spin and took v = v* = orbital speed and v° = 0
And the equation become
W'' = **[1080x 36526x 3600/ T (1 - ε²)] (v/c) ² arc seconds /100 years** same as Einstein's
Given these data

Planet	Mass X 10^24kg	Planet Orbit T	Orbit speed km/sec	Spin speed km/sec	ε	[√(1 - ε²)]/ (1 - ε) ²
Mercury	0.32	88	47.9	.002	0.2060	1.552
Venus	4.9	224.7	35.05	6.52	0.0068	1.00762
Earth	5.98	365.26	29.8	.46511	0.0167	1.0341
Mars	0.64	687	24.14	0.2411	0.0934	1.211339
Jupiter	1900	4333	13.06	12.6	0.0483	1.2
Saturn	570	10760	9.65	9.87	0.056	1.1
Uranus	87	30690	6.80	2.59	0.0461	1.09782
Neptune	103	60180	5.43	2.68	0.0097	1.01959
Pluto	5.4	90730	4.74		0.24488	1.716385

W'' = (-720x36526x3600/T) {[√ (1-ε²)]/ (1-ε) ²} [(v°+ v*)/c] ² arc seconds /100 years
W' (observed) = (-180 x 36526 x 3600/T) (m/M) seconds of arc /100 years; **Newton**
W '' (observed) = [1080x 36526x 3600/ T (1 - ε²)] (v/c) ² arc sec/ 100 years **Einstein**
Take the spin velocity of earth in European locations as v° = +/-0.3 km/sec.

Planet	V* + V°	Nahhas'	observed	Einstein	Newton	Published
Mercury	47.9 + 0.3	43.102"	**43.11"**	43.03"	1 [43.03] **43.03**	43.56"+/- 0.9"
Venus	35.05 +/- 6.52+/ - 0.3 Retrograde Venus motion	8.27"/ Normal 3.7593" Retro	**2.5"** Eddington	8.63	6.0"[43.03] **6.0"**	8.4+/-4.2 Notice the 50% errors
Earth	29.8 + 0.3	2.69"	n/a	3.84	**4.5"**[43.03]	4.6+/-2.7
Mars			n/a	1.35	**2.56"**[43.03]	
Jupiter			n/a	0.06		
Saturn			n/a			
Uranus			n/a			
Neptune			n/a			

Lord Eddington 1921 Article about "Einstein's relativity theory of gravitation" November 11, volume number LXXXII of the Monthly Notes of the Royal Astronomical Society published his finding of 2.5" arc second for Venus. Later Earth's and Venus' advance of perihelion was changed to 8.4" +/- 4.2" and 4.6+/- 2.7 to fit Einstein formula. The published data came after relativity and before relativity they were 43"/2.5" only.

Take $T^2/a^3 = 4\pi^2/G(M + m)$ and invert it
Then $a^3/T^2 = G(M + m)/4\pi^2 = GM/4\pi^2 + Gm/4\pi^2$

And Multiplied by $(4\pi^2 m)$
Then: $4\pi^2 ma^2/T^2 = GmM/a + Gm^2/a$ Energy form
Energy change:
Then: $4\pi^2 ma^2/T^2 - Gm^2/a = GmM/a$

Divide by mc^2
Then: $\Delta E/mc^2 = GM/ac^2$ Dimensionless Energy form

Space-time change at $\theta = \pi/2$ space energy twisted 90° equals energy in time
Or a become twisted 90 degrees in an ellipse then $a \sim ac^2(1-\varepsilon^2)$
Then: $\Delta E/mc^2(1-\varepsilon^2) = GM/ac^2(1-\varepsilon^2)$

Per cycle: Multiply by 2π
Then: Then: $2\pi\Delta E/mc^2(1-\varepsilon^2) = 2\pi GM/ac^2(1-\varepsilon^2)$

Do it three times and add for Harry Larry and Moe:
$W = 6\pi GM/ac^2(1-\varepsilon^2)$
This is space-time dimensionless energy change tripled

That's all folks!

I guess not
A good result of the advance of perihelion of Venus Earth and the outer planets of the solar system is never been taken seriously or done extensively. It has been rigged extensively to cater for Campus Physicists who needs funding and would say anything publish anything based on nothing for jobs money prestige and no physics.

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